

Passive deployment mechanism for space tethers

Abstract

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Mechanism for passively deploying expendable space tethers on orbit, by means of an initial separation impulse only, provided by a simple spring system that is part of the mechanism itself. The passive deployment of the space tether and a
10 tethered end-mass is provided by the particular mechanism devised, having very low deployment friction and resistance. Tether deployment brake towards the final part of deployment is produced by a daisy-like brake, stored within the winding of the fixed tether spool so that it is automatically deployed (opened) and starts its deployment braking or resistance function from a planned point of
15 the tether deployment in space.